



State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

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June 16, 1993

TO: File

FROM: James D. Smith, Reclamation Specialist

RE: Little Bear Spring - 10 June, 1993 Meeting with Water Users
Genwal Coal Company, Crandall Canyon Mine
ACT/015/032, Folder #2, Emery County, Utah

An attached sheet gives the names of those who attended.

This meeting was organized to address concerns of the Castle Valley Special Services District (CVSSD) that Little Bear Spring was being or might be adversely impacted by operations at the Crandall Canyon mine.

S. Bryce Montgomery, consulting geologist for CVSSD, displayed a fault trace map (copy attached) that is based on aerial photo interpretation. The map also shows the axial traces of several anticlines and synclines. One syncline plunges southeast from Genwal's state lease in Section 2 towards Little Bear Spring; it appears the relationship of this syncline to the Crandall Canyon mine and Little Bear spring is a main reason for CVSSD's concern. Another is the possibility of the mine interrupting recharge or flow along faults.

There was also a concern for the amount of water Genwal was removing from the aquifer through MW-1, but discussion of the small yield from this well, with use limited to supplying culinary water to the bath house, allayed that concern.

EarthFax Engineering has mapped the potentiometric surface of the regional Starpoint-Blackhawk aquifer in and around the mine permit area using data from several wells and piezometers. Comparison of the elevations of the coal seam and the potentiometric surface shows that the mine workings are above the potentiometric surface and should not intercept ground water (except for occasional perched aquifers) within the current permit area. Addition of federal leases on the north, west, and east (LBA leases) to the permit area should not change this. However, if leases to the south were to be added then there would be an increased possibility of impacting ground water flow, as mines located to the south do intercept water from the regional aquifer.

EarthFax Engineering stated their preliminary projection of the potentiometric surface from the mine to Little Bear spring indicated the potentiometric surface to be several hundred feet below the spring. They then displayed a structure contour map (made by the BLM using both USGS and confidential proprietary drill hole data) that shows a syncline basically matching the syncline mapped by Mr. Montgomery. The important difference between the two maps is that the BLM map reveals that the southeast plunge of the syncline decreases at around Section 12. The gradient of the regional aquifer probably decreases similarly with water surfacing at Little Bear spring.

Water flows into the sealed workings near the portal, where it is collected and used for mine operations. This is apparently perched water



or intercepted spring flow, although no loss of spring flow has been identified. Corey Hansen of Huntington Cleveland Irrigation stated that this was the irrigation company's water and Genwal needed to compensate them for it. This came up at the end of the meeting and was a new, unanticipated issue. Jay Marshall agreed to meet another time with Corey to discuss it further.

A brief tour of the mine was made after the meeting. The mine was dry except for water from equipment operation near the working face and a few large puddles along the right-of-way, which Genwal attributed to drainage off the belt. No water was seen coming from the roof, floor, or walls of the mine, even in recently mined areas.

Mr. Montgomery asked if Genwal had encountered any faults in the mine such as those he had mapped at the surface. Genwal had not identified any, but in the mine Mr. Montgomery noted several steep slopes that may be indicators of vertical offsets from faulting.

An interesting comment from Genwal, not directly related to ground water, was that the planned sequence for mining is to finish Section 36 then commence mining to the east in Section 31 rather than moving to Section 2: Genwal doesn't have the federal lease in Section 31 yet and of course this is not in the approved MRP.

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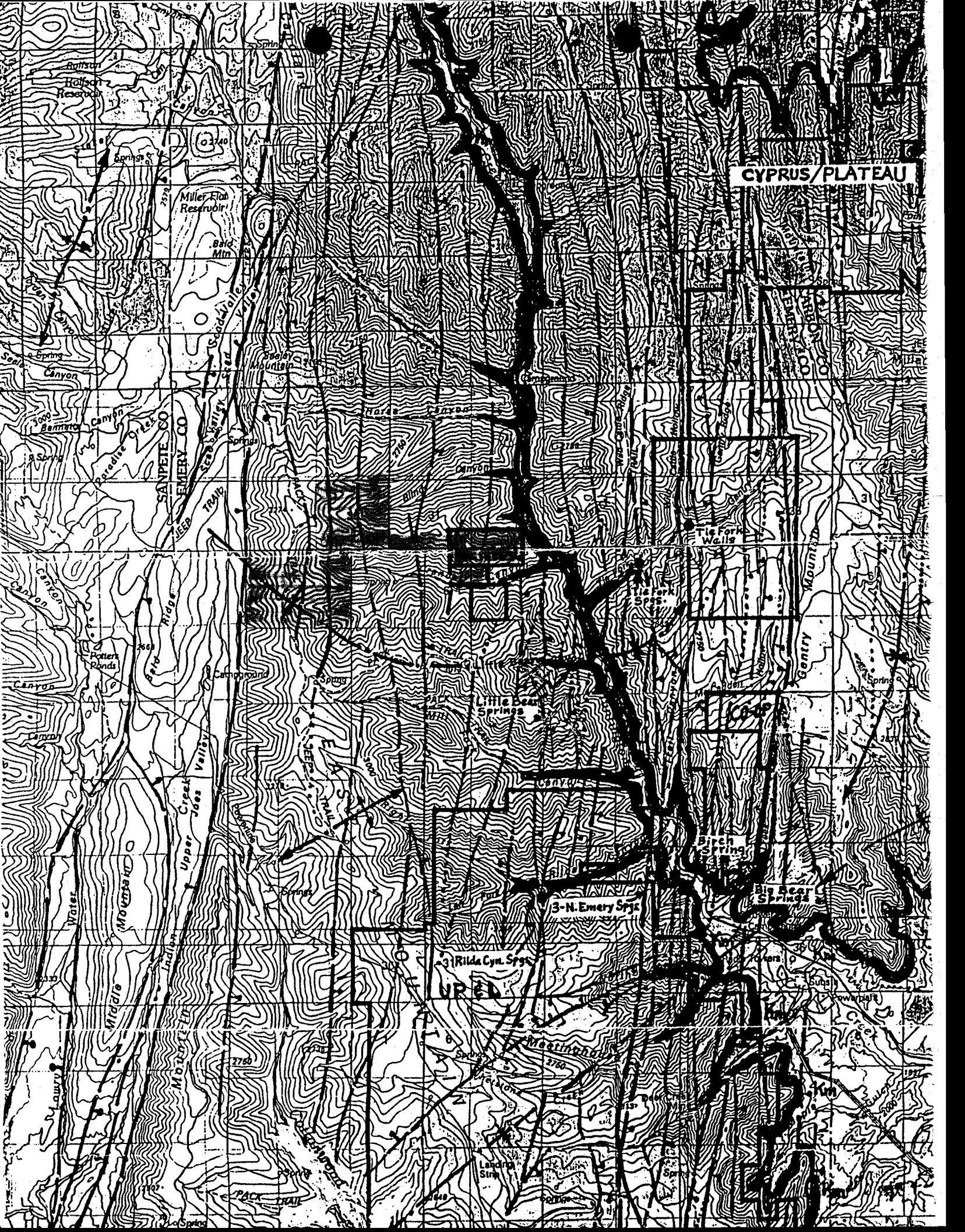
attachments

ATTENDEES AT 6/10/93 MEETING

NAME

REPRESENTING

Craig Johansen	J & T Engineering
Corey Hansen	Huntington Cleveland Irrigation
Darrel Leamaster	Castle Valley Special Service
S. Bryce Montgomery	Consulting Geologist
Jim Smith	Utah DOGM
Randy Gainer	EarthFax
Brent Bouvee	EarthFax
Ronald Kennedy	Castle Valley Special Service
Dennis Ward	Huntington Cleveland
Richard Rowley	Huntington Cleveland
Larry Johnson	Genwal Coal Company
Jay Marshall	Genwal Coal Company
Allen Childs	Genwal Coal Company



CYPRUS/PLATEAU

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3-N. Emery Spgs

Birch Spring

Big Bear Spgs

UPPER

Mountain

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TRAIL